

ABSTRACT

The present invention accordingly provides a device or apparatus for manipulating matter in a confined or inaccessible space, comprising manipulator means at least partly constructed of one or more bent or twisted elongate shape memory alloy members having pseudoelasticity at the intended manipulation temperature, and a hollow housing (preferably of elongate tubular form) or cannula capable of holding at least the shape memory alloy member(s) in a relatively straightened state, and actuating means for extending the shape memory alloy member(s) from the housing to manipulate matter within the said space and for withdrawing the shape memory alloy member(s) into the housing, the arrangement being such that the shape-memory alloy member(s) bend(s) or twist(s) pseudoelastically in a lateral or helical sense to manipulate the matter on extending from the housing at the said manipulation temperature, and become(s) relatively straightened on withdrawal into the housing at the said temperature.

Preferably the invention provides such a device or apparatus which is of elongate form for surgical manipulation of matter within a living body, and which has the manipulator means at its distal end with the shape memory alloy member(s) having pseudoelasticity at the temperature to be encountered within that body, and wherein the actuating means is operable from the proximal end of the device.